Top 25 GIT Interview Questions for SDET

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1. What is GIT?

GIT is a Distributed Version Control System (DVCS) and Source Code Management System (SCMS) which is used to track changes to a file and also allows to revert back to any particular change.

It has an ability to handle small and large projects with efficiency and speed.

2. What is the difference between GIT and SVN?

The differences between GIT and SVN are as follows:

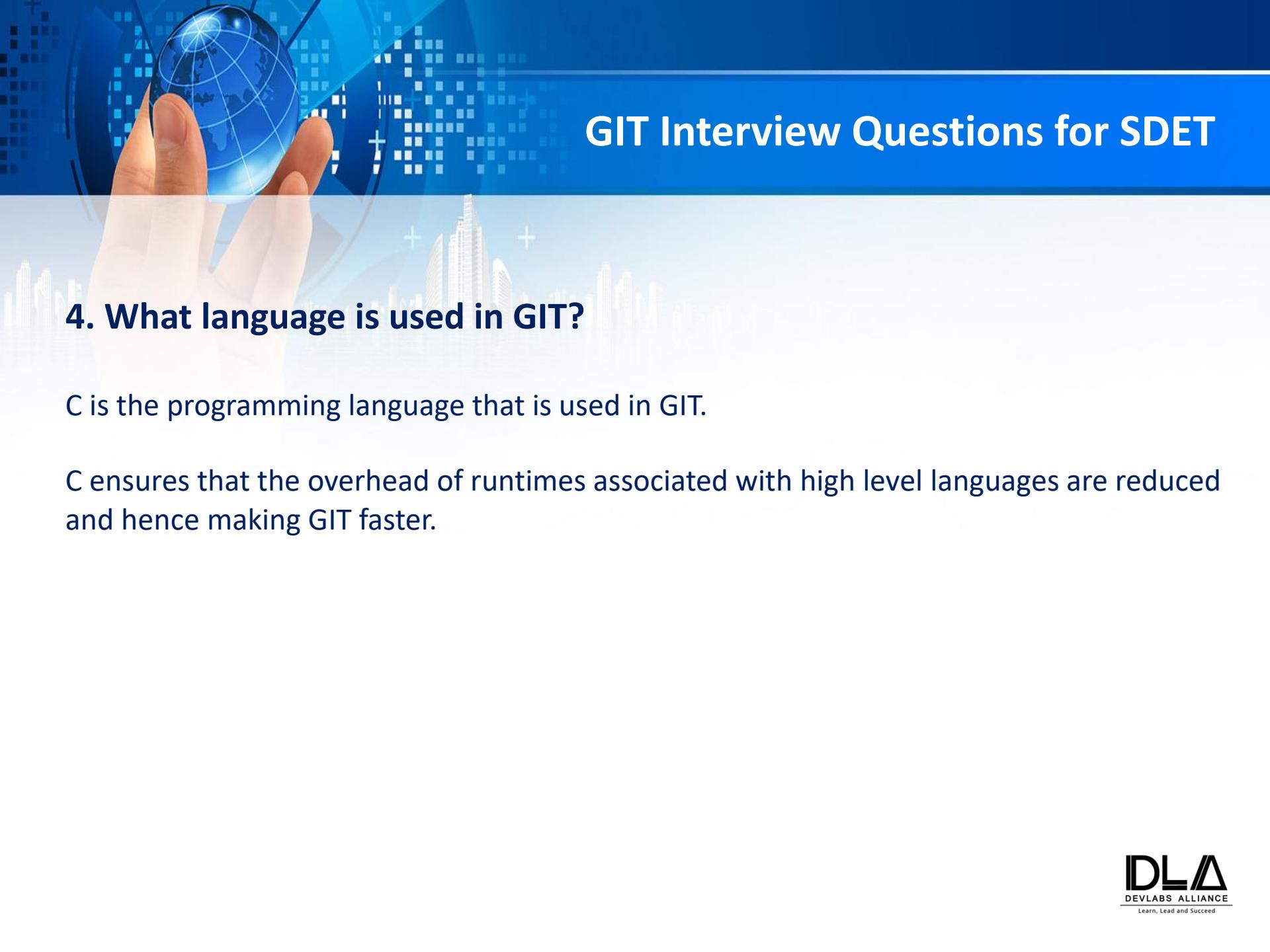| GIT	SVN
GIT is a Decentralized Version Control tool.	SVN is a Centralized Version Control tool.
Entire repository can be cloned on the local system.	Version history is stored on a server-side repository.
Commits are possible even if offline.	Only online commits are allowed.
Push/Pull operations are faster.	Push/Pull operations are slower.
Work is shared automatically on commit.	Work is not shared automatically.

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3. What are the advantages of GIT?

The advantages of GIT are as follows:

- Data redundancy and data replication is possible.
- Excellent network performance and disk utilization.
- There is only one .git directory per repository.
- Highly available service.
- Any type of project can use GIT.
- It is very easy to collaborate on any project.

4. What language is used in GIT?

C is the programming language that is used in GIT.

C ensures that the overhead of runtimes associated with high level languages are reduced and hence making GIT faster.

5. What is a repository in GIT?

A GIT repository contains a directory named as .git where it keeps all of its metadata for the repository.

All the contents of .git directory are private to GIT.

6. Which command is used to write a commit message?

git commit -a is used to write a commit message in GIT.

The -a is used to instruct the git to commit the new content of all tracked files that have been modified.

If any new file needs to be committed for the first time, "git add<file>" is used before git commit.

7. What is Staging Area or Index in GIT?

Commits can be changed, formatted and reviewed in an intermediate area, before the completion of commits.

This intermediate area is called as Staging Area or Index.

8. What is the difference between Git Pull and Git Fetch?

git fetch downloads any new data from a remote repository but it doesn't integrate this downloaded data into the working files.

git pull downloads and also merges the data from a remote repository into the working files.
It can merge conflicts as well if local changes are not committed.

git pull = git fetch + git merge

9. What is Git Stash?

Git Stash takes the current state of the working directory and puts it on the stack for later and hence providing a clean working directory.

Git Stash is used when we need to switch to any other job and at the same time we don't want to lose our existing work.

10. What is Git Stash drop?

When we want to remove the stashed item from the list, then **git stash drop** command is used.

It removes the last added item in stash by default and it can also remove a specific item if included as an argument.

11. What is the use of git clone?

git clone command is used to create a copy of an existing GIT repository.

Git clone is the most common way used by programmers to get the copy of a central repository to a local workspace.

12. How to identify if a certain branch has been merged into master?

git branch --merged master : It shows all branches that are merged into master.

git branch --merged : It shows all branches that are merged into the head.

git branch --no-merged : It shows all branches that are not merged.

13. What is the function of git config?

The git config command is an easy way to set configuration options for GIT installations.

git config command is used to define behavior of a repository, user info, preferences, etc.

For eg.: We configure global username and email address after installing GIT. However we can set them now if we missed that step or want to make changes.

git config --global user.name "First_Name" : This will add user name.

git config --global user.email "emailAddress" : This will add Email Address.

14. How can you create a repository in GIT?

To create a repository in GIT, create a directory for the project if it does not exist, and then run the command "git init".

This command will create .git directory in the project directory, the directory does not need to be empty.

15. What is the purpose of branching in GIT?

Branching is used to create a new own branch till some commits and then can easily switch between those branches. GIT allows to have multiple local branches that can be entirely independent of each other.

This will help to go to previous work keeping the recent work intact.

16. How can you delete a local and remote GIT branch?

To delete a **local GIT branch**, following command is used:

git branch -d branch_name

To delete a **remote GIT branch**, following command is used:

git push <remote_name> --delete <branch_name>

17. What is the difference between 'git remote' and 'git clone'?

'git remote add' just creates an entry into a git config that specifies a name for a particular URL.

While, 'git clone' creates a new directory by copying the existing remote repository into a local workspace at the particular URL.

18. What is the function of 'git diff' in GIT?

'git diff' is used to show the changes between commits, commit and working tree, etc.

The most common scenario to use diff is to see what changes are made after the last commit.

For eg.:
git diff HEAD [filename] : It compares the working directory with local repository.
git diff [filename] : It compares the working directory with Index.
git diff --cached [filename] : compare the index with local repository.

19. What is the function of 'git checkout' in GIT?

'git checkout' is a command that is used to update directories or specific files in the working tree with those form another branch without merging it in the whole branch.

The git checkout command operates upon three distinct entities: files, commits and branches.

git checkout -b <new-branch>

20. What is the function of 'git rm' in GIT?

'git rm' command is used to remove individual files or a collection of files.

It is used to remove files from both the staging index and the working directory.

git rm DLA/*.txt : This will remove all .txt files that are children of DLA directory and any of its subdirectories.

21. What does 'hooks' consists of in GIT?

GIT hooks are Shell scripts that are executed before or after the corresponding GIT commands, such as : commit, push and receive.

Git hooks are a built-in feature and there is no need to download them.

For eg.: GIT will try to execute a post commit script after a run of commit.

22. How can you fix a broken commit in GIT?

git command --amend command is used to fix a broken commit in GIT.

This command will fire the commit patch in $Editor. We just need to edit the message right on the top line of the file, save and then quit.
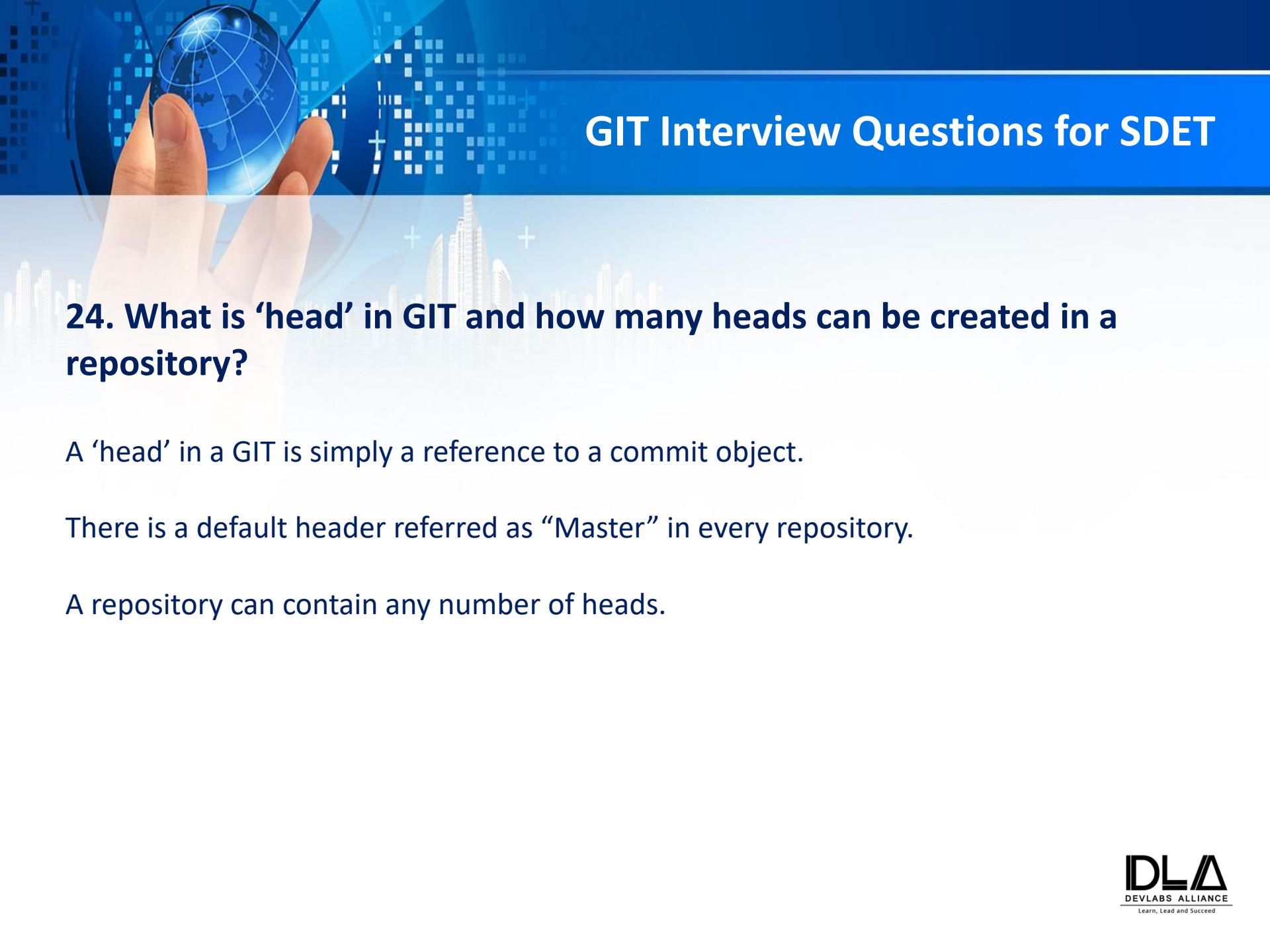
23. What is conflict in GIT?

A conflict in GIT arises when the commit that needs to be merged has some change in one file, and also the current commit has change in the same place in that file.

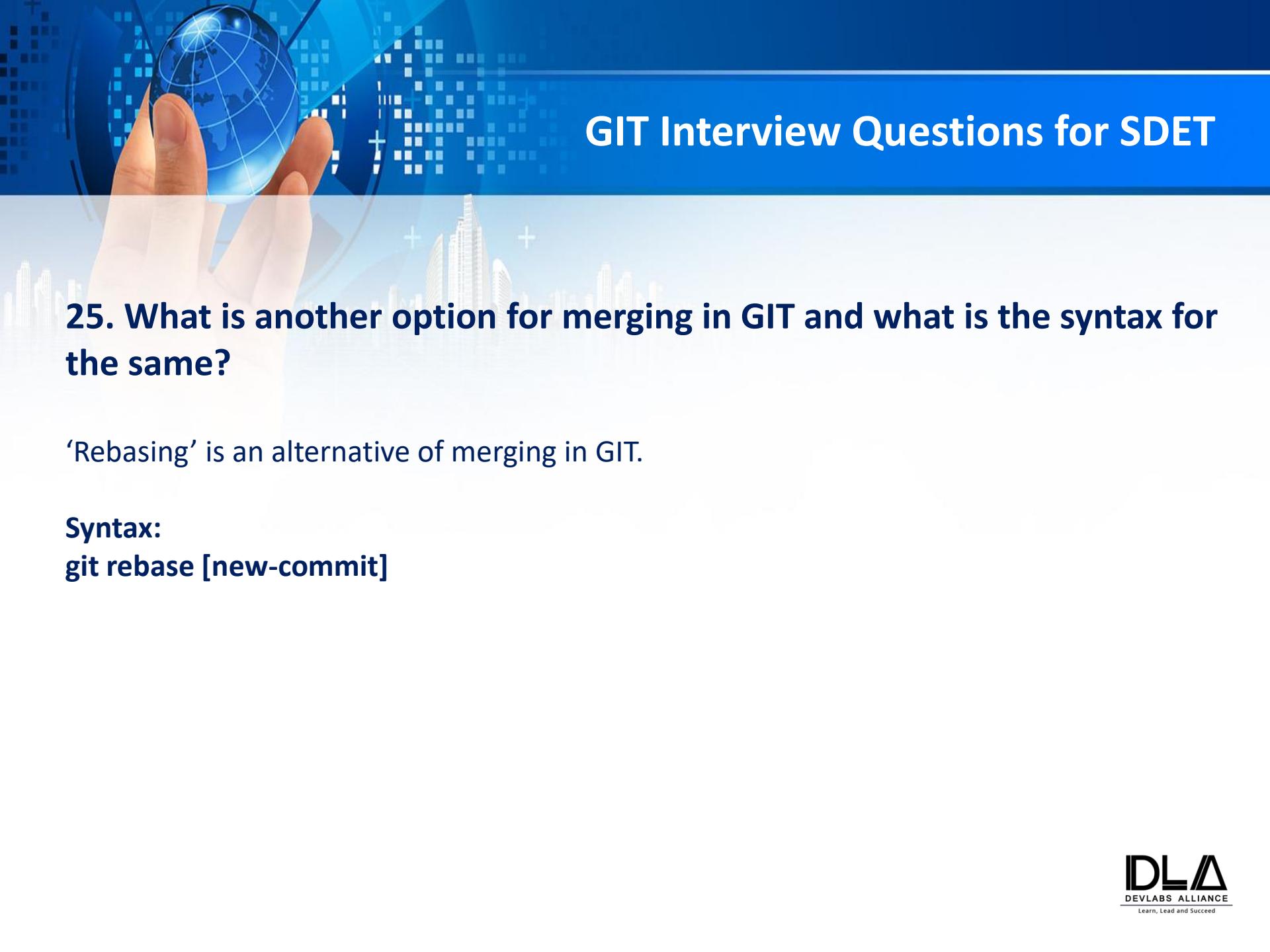In this case, GIT is not able to predict that which change should take precedence.

24. What is 'head' in GIT and how many heads can be created in a repository?

A 'head' in a GIT is simply a reference to a commit object.

There is a default header referred as "Master" in every repository.

A repository can contain any number of heads.

25. What is another option for merging in GIT and what is the syntax for the same?

'Rebasing' is an alternative of merging in GIT.

Syntax:
git rebase [new-commit]

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